



POLIOMYELITIS SURVEILLANCE REPORT

FOR ADMINISTRATIVE USE

REPORT NO. 246

November 13, 1961

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SPECIAL NOTE

This report is intended for the information and administrative use of those involved in the investigation and control of poliomyelitis and polio-like diseases. It presents a summary of provisional information reported to CDC from State Health Departments, Virology Laboratories, Epidemic Intelligence Service Offices, and other pertinent sources. Since much of the information is preliminary in nature, confirmation and final interpretation should be determined in consultation with the original investigators prior to any further use of the material.

SUMMARY

A sharp decrease in reported cases of poliomyelitis was evident during the current week ending November 4 with reports of 36 cases, 21 paralytic. No new concentrations of poliomyelitis have been recognized.

Only one State, New York, reported more than two paralytic cases. Narrative reports from New York and Maryland are included.

A summary of poliomyelitis cases and poliovirus isolations is included in Section 3. A report of an outbreak of aseptic meningitis in Montana is presented in Section 5. In addition, a brief description of the current oral poliovaccine field trial in Hillsborough County (Tampa), Florida, is included in Section 6.

The Poliomyelitis Surveillance Report will be published at appropriate intervals during the coming winter months of low incidence.

1. CURRENT POLIOMYELITIS MORBIDITY TRENDS

Telegraphic notification of 36 cases, 21 paralytic, has been received for the 44th week ending November 4. This represents a sharp decrease from last week's figures as illustrated in Figure 1, and continues the declining trend of weekly case reports since the peak week in mid-September.

The table below presents a comparison of current six-week totals with those of recent years. The average weekly paralytic case count during the past six weeks was 33, compared with 79 in 1957, and 92 in 1960. These figures emphasize the lower late-seasonal level of cases reported this year.

Six Week Totals (39th thru 44th Week) for Past Five Years

	<u>1961</u>	<u>1960</u>	<u>1959</u>	<u>1958</u>	<u>1957</u>
Paralytic	199	551	1,273	905	476
Total	321	775	1,721	1,767	916

Eighteen of the 50 reporting States contributed to this week's total. All National Regions except the South Atlantic reported fewer cases; here, Maryland accounted for the increase with nine nonparalytic cases delayed for laboratory confirmation. The only other State reporting more than two cases was New York with seven cases, five paralytic. No concentrations have been noted.

2. REPORTS

A. New York State

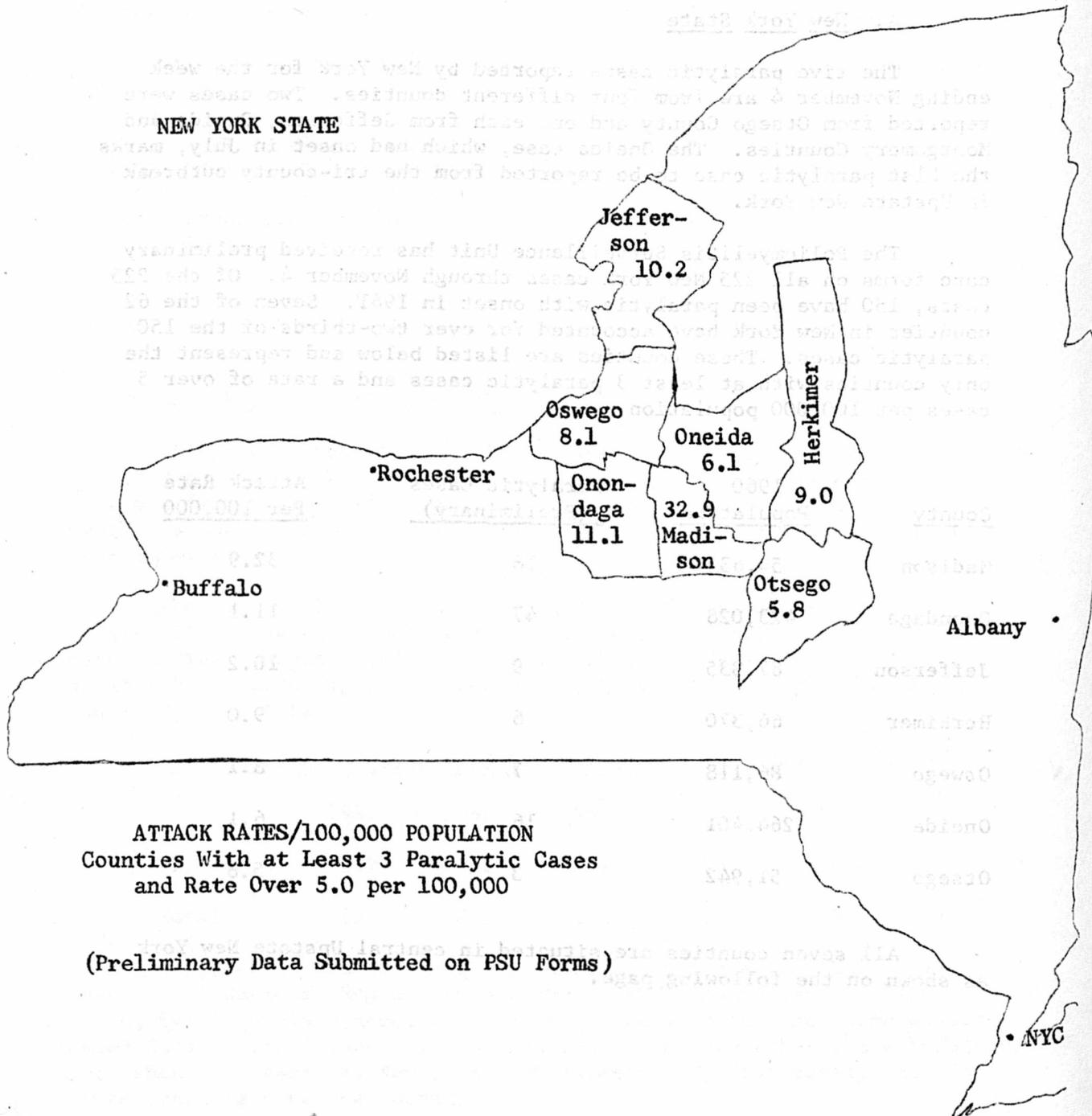
The five paralytic cases reported by New York for the week ending November 4 are from four different counties. Two cases were reported from Otsego County and one each from Jefferson, Oneida and Montgomery Counties. The Oneida case, which had onset in July, marks the 81st paralytic case to be reported from the tri-county outbreak in Upstate New York.

The Poliomyelitis Surveillance Unit has received preliminary case forms on all 225 New York cases through November 4. Of the 225 cases, 150 have been paralytic with onset in 1961. Seven of the 62 counties in New York have accounted for over two-thirds of the 150 paralytic cases. These counties are listed below and represent the only counties with at least 3 paralytic cases and a rate of over 5 cases per 100,000 population.

<u>County</u>	<u>1960 Population</u>	<u>Paralytic Cases (Preliminary)</u>	<u>Attack Rate Per 100,000</u>
Madison	54,635	18	32.9
Onondaga	423,028	47	11.1
Jefferson	87,835	9	10.2
Herkimer	66,370	6	9.0
Oswego	86,118	7	8.1
Oneida	264,401	16	6.1
Otsego	51,942	3	5.8

All seven counties are situated in central Upstate New York as shown on the following page.

NEW YORK STATE



ATTACK RATES/100,000 POPULATION
Counties With at Least 3 Paralytic Cases
and Rate Over 5.0 per 100,000

(Preliminary Data Submitted on PSU Forms)

B. Maryland

The nine cases of nonparalytic poliomyelitis reported for the week ending November 4 represent delayed reports. The Maryland Weekly Report of Poliomyelitis lists 2 of the cases with onset in July, 5 with onset in August, and 2 with onset in September.

Of the 9 nonparalytic cases, 5 are from Frederick County bringing the total number of cases in that county to 20. The previous 15 cases were all paralytic and all but one occurred in late June, July and August. The 15th paralytic case had onset on September 26. The 5 nonparalytic cases had onset during July and August.

Type III poliovirus has been isolated from 17 of the 30 paralytic cases and from 8 of the 9 nonparalytic cases which have occurred in Maryland through November 2.

3. 1961 POLIOMYELITIS REPORTED TO PSU

A. Poliomyelitis Surveillance Case Records

Through November 4, there have been 935 cases of poliomyelitis with onset in 1961 submitted on individual case forms to the Poliomyelitis Surveillance Unit. Of the 935 cases, 678 (73 percent) are paralytic, 221 nonparalytic and 36 unspecified as to paralytic status. These cases are presented below in Table 3 by paralytic status, age group and vaccination history.

Table 3A

POLIOMYELITIS CASES BY PARALYTIC STATUS, AGE GROUP
AND VACCINATION HISTORY REPORTED ON PSU FORMS
(Through November 4, 1961)

Age Group	Paralytic					Unk	TOTAL	Percent
	Doses of Vaccine							
	0	1	2	3	4+			
0-4	147	24	22	30	19	18	260	38.3
5-9	43	11	15	34	29	6	138	20.4
10-14	22	5	12	17	21	3	80	11.8
15-19	13	1	6	15	3	2	40	5.9
20-29	49	5	6	13	4	2	79	11.7
30-39	37	5	3	3	3	6	57	8.4
40+	19	0	0	1	1	3	24	3.5
TOTAL	330	51	64	113	80	40	678	100.0
PERCENT DOSES	51.7	8.0	10.0	17.7	12.5	-	100.0	

Table 3A (Continued)

Age Group	Nonparalytic Doses of Vaccine						TOTAL	Percent
	0	1	2	3	4+	Unk		
0-4	16	2	7	8	4	3	40	18.1
5-9	10	0	6	17	24	4	61	27.6
10-14	3	3	6	14	15	6	47	21.3
15-19	2	0	4	5	5	2	18	8.1
20-29	7	0	4	13	9	4	37	16.7
30-39	10	0	0	4	1	1	16	7.2
40+	0	0	0	0	2	0	2	0.9
TOTAL	48	5	27	61	60	20	221	100.0
PERCENT								
DOSES	23.9	2.5	13.4	30.3	29.9	-	100.0	

B. Poliovirus Isolations

Of the 935 cases reported to PSU, laboratory reports of attempted viral isolation have been received on 305 cases. Seventy-one percent (218 out of 305) have yielded a poliovirus isolation with the number of type I and type III isolations approximately equal. Of the 218 poliovirus isolations reported, 113 were type I, and 104 were type III. There has been one type II isolation. The isolations are shown below by state.

New York and Louisiana continue to account for one-half of the type I isolations; one-half of the type III isolations are from four states: Maryland, South Carolina, Georgia and Washington.

Table 3B

POLIOVIRUS ISOLATIONS BY STATE*

State	Type I	Type II	Type III	TOTAL
Alabama	-	-	5	5
Arkansas	3	-	-	3
California	6	-	3	9
Connecticut	3	-	-	3
Dist. of Col.	-	-	3	3
Florida	4	-	3	7
Georgia	1	-	9	10
Hawaii	2	-	-	2
Idaho	2	1	2	5
Indiana	2	-	-	2
Kentucky	-	-	1	1
Louisiana	25	-	6	31
Maryland	-	-	25	25
Minnesota	1	-	1	2
Mississippi	6	-	2	8

(Continued on next page)

Table 3B (Continued)

POLIOVIRUS ISOLATIONS BY STATE*

<u>State</u>	<u>Type I</u>	<u>Type II</u>	<u>Type III</u>	<u>TOTAL</u>
Missouri	1	-	-	1
New Hampshire	-	-	1	1
New Jersey	2	-	4	6
New York	31	-	1	32
North Carolina	-	-	2	2
Ohio	5	-	-	5
Oregon	1	-	2	3
Pennsylvania	6	-	7	13
Rhode Island	1	-	-	1
South Carolina	-	-	10	10
Tennessee	1	-	1	2
Texas	1	-	-	1
Utah	-	-	1	1
Vermont	5	-	-	5
Virginia	-	-	2	2
Washington	1	-	9	10
West Virginia	1	-	-	1
Wisconsin	<u>2</u>	<u>-</u>	<u>4</u>	<u>6</u>
TOTAL	113	1	104	218
PERCENT	51.8	0.5	47.7	100.0

* From cases reported on PSU forms through November 4.

4. ROUTINE POLIOMYELITIS SURVEILLANCE

A. Cases with Onset Within 30 Days of Vaccination (Inactivated)

Three cases of paralytic poliomyelitis with onset within 30 days of receiving inactivated vaccine (IPV) have been reported to the Poliomyelitis Surveillance Unit for the week ending November 4. This brings the 1961 total of IPV under-30-day cases to 22, of which 16 are paralytic (two correlated).

The 3 cases are presented below. Additional information is being sought as part of routine poliomyelitis surveillance.

<u>State</u>	<u>Age</u>	<u>Sex</u>	<u>Date Inoc.</u>	<u>Onset Interval</u>	<u>Mfr.</u>	<u>Lot No.</u>	<u>Correlated</u>
California	6	F	8-14	6 days	Pfizer	14014	Unk.
Vermont	4	F	10-14	14 days	Lilly	Unk.	No
Virginia	8	M	August	Unk.	Unk.	Unk.	Unk.

B. Cases with Onset Within 30 Days of Vaccination (Oral)

No additional cases of poliomyelitis with onset within 30 days of receiving oral vaccine (OPV) have been reported to the Poliomyelitis Surveillance Unit. Thus, the 1961 total of OPV under-30-day cases remains at 28, of which 22 are paralytic.

5. ENTEROVIRUS SURVEILLANCE

Over the past few weeks the Poliomyelitis Surveillance Unit has been pleased to receive reports of enterovirus isolations from laboratories associated with Medical Schools and other institutions. Also, several outbreaks of enterovirus-associated disease have been reported and summarized in these pages in past issues. We heartily welcome these contributions because of their widespread interest, and we actively solicit more.

This week we have received notification of an outbreak of aseptic meningitis and other illness associated with Coxsackie B-5 in Billings, Montana. Dr. J. H. Glenn, Pathologist at St. Vincent's Hospital, has summarized some clinical and epidemiologic features of the outbreak, and has reported them through Dr. Mary E. Soules, Acting Executive Officer, Montana State Board of Health. Dr. Glenn's report follows:

"Physicians in the Billings area were aware of an epidemic of aseptic meningitis during the summer months of 1961. A Coxsackie virus was suspected at the time of the epidemic, and we now have sufficient evidence to implicate Coxsackie Group B, Type 5. Almost all of the patients admitted to St. Vincent's Hospital had aseptic meningitis, but some cases of pleurodynia and herpangina are known to have existed. During July and August, when the epidemic was at its peak, forty patients were admitted to St. Vincent's Hospital with aseptic meningitis. Stool specimens from nine of these patients were sent to the State Laboratory for virus isolation. No report has been received on two of these specimens, one is known to contain a virus which has not yet been identified, and the other six have been shown to contain Coxsackie Group B, Type 5 virus. On one patient this virus has been isolated on two separate specimens taken three weeks apart.

The 3 cases are presented below. Additional information is being sought as part of routine poliomyelitis surveillance.

State	Age	Sex	Date	Onset Interval	Mr.	Loc No.	Correlated
California	6	F	8-14	6 days	Pfizer	14014	Unk.
Vermont	4	F	10-14	14 days	Lilly	Unk.	NO
Virginia	8	M	August	Unk.	Unk.	Unk.	Unk.

"The clinical appearance of the patients with aseptic meningitis was quite uniform. The patients appeared acutely ill and their chief complaint was usually severe headache. Fever was uniformly present, usually from 100° to 103°, and characteristically it showed daily spikes. Nausea and vomiting were common complaints. The total duration of illness was quite variable but on the average it seemed to be about one week. Physical findings were almost always limited to nuchal rigidity. The white count was normal, or elevated to 12 or 13,000, and the differential was normal or occasionally slightly shifted to the left. Spinal fluid examinations showed 60 to 2600 cells per cubic mm. with 20 to 75% lymphocytes. Protein ranged from 20 to 71 and Sugar from 59 to 91 mgms.%. The ages of the six patients in whom the virus was isolated are 4½, 16, 18, 22, 37 and 37 years. Five of these patients came from Billings and one from Laurel.

"The charts of 11 other patients were picked at random from the large number of patients with these characteristic clinical and laboratory findings. Three of these patients were less than 10 years old, two were between 10 and 20, and three were between 20 and 30. Spinal fluid examinations were done on 8 of these patients and the findings were identical to those listed above. All of these patients came from Billings.

"Rubin, et al, reported an excellent study of an epidemic caused by this type of Coxsackie virus in 1956 in Iowa (NEJM 258:255, 1958). This epidemic appears to have been quite similar to ours. The age distribution is similar, with one half to two thirds of the patients less than 20 years old. The epidemic curves are similar, and according to Rubin it is characteristic of an infectious disease that spreads through a susceptible population until "the chain of infection" is broken by a marked diminution in the number of susceptible persons. There were 63 patients hospitalized over a 12-week period in the Iowa epidemic, compared to 40 patients hospitalized in St. Vincent's Hospital over an 8-week period. Assuming the epidemics to be comparable in size, and using Rubin's estimate of overall attack rate of 8%, there must have been approximately 5,000 cases of clinical illness in Billings during the epidemic.

"Rubin believes that the most likely mode of transmission is by person to person contact either by the fecal-oral route or by the respiratory route."

6. ORAL POLIOVACCINE PROGRAM - FLORIDA

An oral poliovaccine field trial utilizing Sabin strains developed by Lederle Laboratories is underway in Hillsborough County (Tampa), Florida. Under the direction of Dr. John S. Neill, Director, Hillsborough County Health Department, the trial has two main objectives:

- (1) testing the efficacy of Lederle vaccines in consistent serologic conversion in susceptible children,
- (2) familiarizing all administrative personnel with techniques of mass oral immunization.

The trial began on October 9, and will continue through December, 1961. Involved are some 450-600 children aged six months to six years.

An initial serum specimen and fecal specimen is being followed by feeding of monovalent type I vaccine. Approximately 28 days following this, second serum and fecal specimens will be collected; types II and III oral polio-vaccines will then be fed. Third serum and fecal specimens will be collected 28 days following this feeding.

Processing of laboratory specimens is being done by the Florida State Board of Health Laboratories and by the Lederle Laboratories.

Surveillance for neurologic illness is being maintained under the direction of Dr. S. K. Burke, Assistant Director, Hillsborough County Health Department. No illness in vaccinees has been reported, but 3 cases of aseptic meningitis involving non-vaccinees are being investigated.

Rubin, et al., reported an excellent study of an epidemic caused by this type of Coxsackie virus in Iowa (MMWR 32:252, 1958). This epidemic appears to have been quite similar to ours. The age distribution is similar, with one half to two thirds of the patients less than 20 years old. The epidemic curves are similar, and according to Rubin it is characteristic of an infectious disease that spreads through a susceptible population until "the chain of infection" is broken by a marked diminution in the number of susceptible persons. There were 83 patients hospitalized over a 12-week period in the Iowa epidemic, compared to 49 patients hospitalized in St. Vincent's Hospital over an 8-week period. Assuming the epidemics to be comparable in size, and using Rubin's estimate of overall attack rate of 8%, there must have been approximately 5,000 cases of clinical illness in Billings during the epidemic.

Rubin believes that the most likely mode of transmission is by person to person contact either by the fecal-oral route or by the respiratory route.

ORAL POLIOVACCINE PROGRAM - FLORIDA

(This surveillance report was prepared by the Poliomyelitis and Polio-like Diseases Surveillance Unit, Michael J. Regan, M.D., Chief, and Mr. Leo Morris, Statistician, with the assistance of Statistics Section, CDC.)

- (1) testing the efficacy of Lederle vaccines in consistent serologic conversion in susceptible children,
- (2) familiarizing all administrative personnel with techniques of mass oral immunization.

The trial began on October 9, and will continue through December, 1961. Involved are some 450-600 children aged six months to six years.

Number of Reported Cases

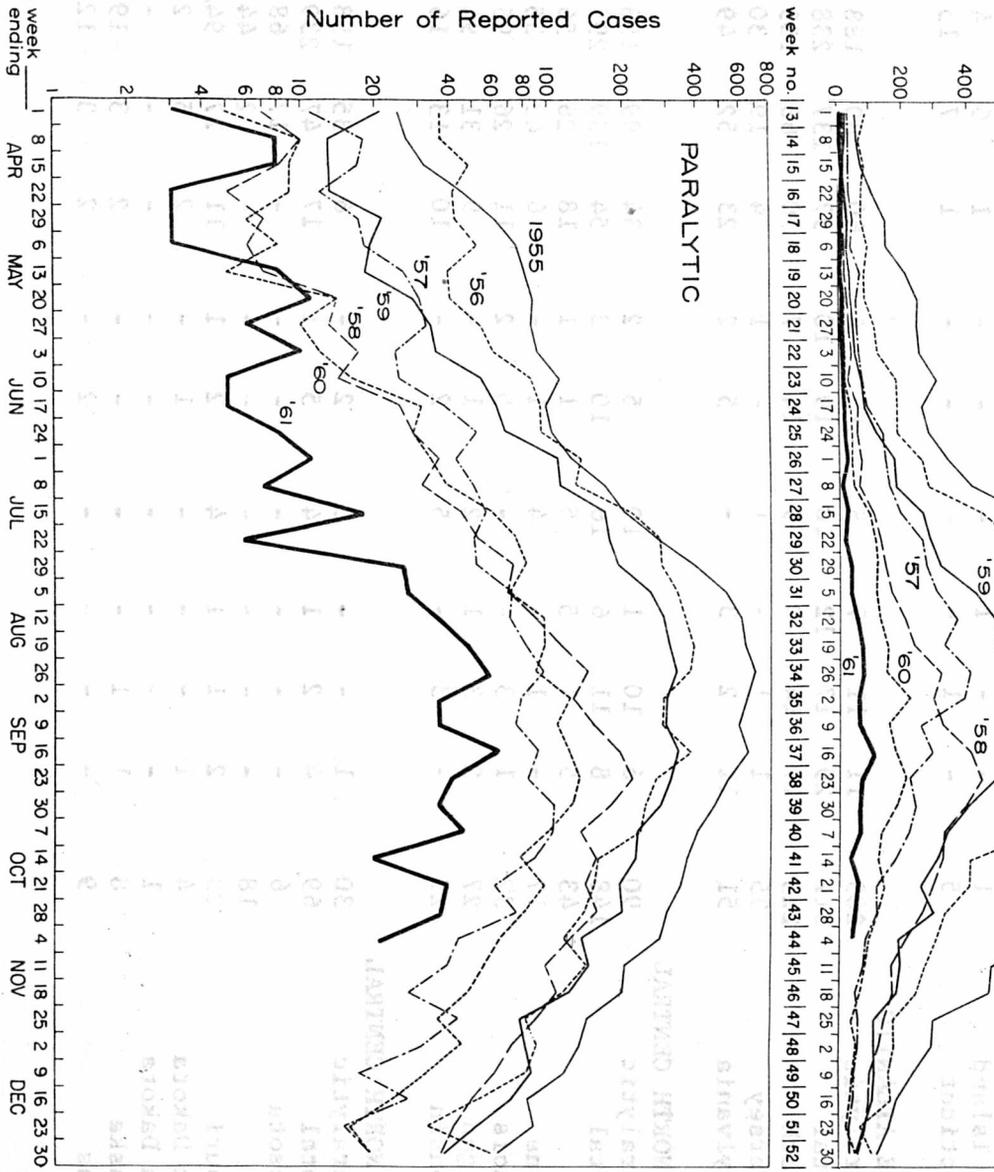


FIGURE 1

**CURRENT U.S. POLIO INCIDENCE
 COMPARED WITH YEARS 1955 - 1960, April - December, by week**

PROVISIONAL DATA SUPPLIED BY NATIONAL OFFICE OF VITAL STATISTICS
 AND COMMUNICABLE DISEASE CENTER

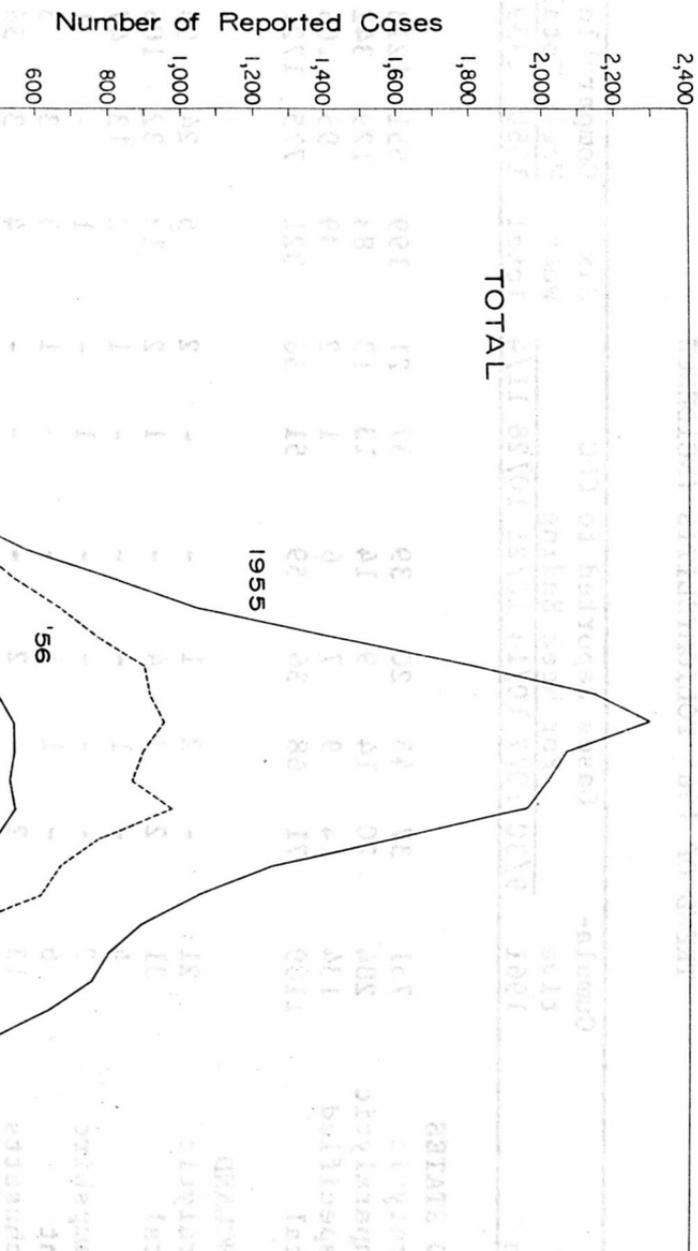


Table 1

TREND OF 1961 POLIOMYELITIS INCIDENCE

State and Region	Cumulative 1961	Cases Reported to CDC For Week Ending						Six Week Total	Comparable Six Weeks Totals in		
		9/30	10/7	10/14	10/21	10/28	11/4		1960	1959	1958
UNITED STATES											
Paralytic	751	37	45	20	39	37	21	199	551	1273	905
Nonparalytic	284	20	14	9	14	13	13	83	129	342	599
Unspecified	134	14	9	7	6	1	2	39	95	106	263
Total	1169	71	68	36	59	51	36	321	775	1721	1767
NEW ENGLAND											
Paralytic	21	-	2	1	-	-	2	5	24	96	17
Total	31	2	3	4	-	1	2	12	32	106	19
Maine	4	-	1	-	-	-	1	2	13	47	2
New Hampshire	2	-	-	-	-	1	-	1	-	1	-
Vermont	6	-	1	1	-	-	1	3	3	3	3
Massachusetts	13	2	-	2	-	-	-	4	3	36	6
Rhode Island	1	-	-	1	-	-	-	1	6	4	-
Connecticut	5	-	1	-	-	-	-	1	7	15	8
MIDDLE ATLANTIC											
Paralytic	209	11	11	7	8	15	8	60	89	188	102
Total	311	29	17	12	10	19	10	97	137	238	203
New York	225	17	14	9	9	14	7	70	66	159	90
New Jersey	35	1	1	-	1	-	1	4	19	30	81
Pennsylvania	51	11	2	3	-	5	2	23	52	49	32
EAST NORTH CENTRAL											
Paralytic	90	6	10	1	10	5	2	34	99	158	289
Total	148	8	11	6	16	10	3	54	139	297	802
Ohio	43	5	1	5	5	1	1	18	26	56	141
Indiana	17	-	1	-	4	1	-	6	43	35	43
Illinois	32	1	3	-	-	5	2	11	26	96	80
Michigan	27	2	3	1	2	1	-	9	31	94	518
Wisconsin	29	-	3	-	5	2	-	10	13	16	20
WEST NORTH CENTRAL											
Paralytic	30	1	-	-	3	2	-	6	35	158	72
Total	69	4	2	1	4	5	1	17	47	239	115
Minnesota	6	-	-	-	-	-	-	-	17	68	10
Iowa	18	-	-	-	-	-	-	-	2	44	10
Missouri	23	2	1	1	4	2	1	11	17	94	64
North Dakota	4	1	-	-	-	1	-	2	5	2	9
South Dakota	1	-	-	-	-	-	-	-	-	-	2
Nebraska	8	1	1	-	-	-	-	2	3	19	11
Kansas	9	-	-	-	-	2	-	2	3	12	9

Table 1 (Continued)

State and Region	Cumulative 1961	Cases Reported to CDC For Week Ending						Six Week Total	Comparable Six Weeks Totals in			
		9/30	10/7	10/14	10/21	10/28	11/4		1960	1959	1958	
SOUTH ATLANTIC												
Paralytic	146	7	16	3	7	7	2	42	166	233	138	
Total	205	7	19	4	14	7	11	62	188	270	215	
Delaware	2	-	-	-	-	-	-	-	-	2	6	
Maryland	40	3	1	-	1	3	9	17	90	18	9	
D.C.	3	1	-	1	-	-	-	2	5	-	-	
Virginia	12	1	-	-	-	-	-	1	20	53	49	
West Virginia	31	1	1	1	5	1	1	10	23	45	67	
North Carolina	21	-	3	-	4	-	-	7	15	79	23	
South Carolina	33	-	14	2	1	1	-	18	16	17	7	
Georgia	30	1	-	-	-	2	-	3	5	34	15	
Florida	33	-	-	-	3	-	1	4	14	22	39	
EAST SOUTH CENTRAL												
Paralytic	46	2	-	2	-	1	2	7	25	138	64	
Total	79	6	3	3	-	1	2	15	85	169	100	
Kentucky	27	2	3	1	-	-	-	6	52	44	26	
Tennessee	19	3	-	-	-	-	-	3	15	86	31	
Alabama	10	-	-	-	-	-	1	1	8	23	9	
Mississippi	23	1	-	2	-	1	1	5	10	16	34	
WEST SOUTH CENTRAL												
Paralytic	77	4	4	2	5	1	2	18	39	92	116	
Total	143	9	8	2	5	2	3	29	55	157	156	
Arkansas	19	-	-	1	-	1	1	3	9	52	7	
Louisiana	50	4	4	1	4	1	1	15	6	22	19	
Oklahoma	4	-	1	-	-	-	-	1	5	17	6	
Texas	70	5	3	-	1	-	1	10	35	66	124	
MOUNTAIN												
Paralytic	25	1	-	-	1	-	-	2	17	15	23	
Total	44	1	-	-	2	-	-	3	24	28	47	
Montana	4	-	-	-	1	-	-	1	7	3	8	
Idaho	14	-	-	-	-	-	-	-	4	1	3	
Wyoming	-	-	-	-	-	-	-	-	1	-	6	
Colorado	7	-	-	-	1	-	-	1	8	6	5	
New Mexico	3	-	-	-	-	-	-	-	1	5	10	
Arizona	8	1	-	-	-	-	-	1	1	9	11	
Utah	8	-	-	-	-	-	-	-	2	2	3	
Nevada	-	-	-	-	-	-	-	-	-	2	1	
PACIFIC												
Paralytic	107	5	2	4	5	6	3	25	57	195	84	
Total	139	5	5	4	8	6	4	32	68	217	110	
Washington	25	-	2	-	1	2	2	7	6	66	16	
Oregon	17	1	-	-	2	-	1	4	6	43	8	
California	92	3	3	4	5	4	-	19	56	101	75	
Alaska	-	-	-	-	-	-	-	-	-	7	-	
Hawaii	5	1	-	-	-	-	1	2	-	-	11	
TERRITORY												
Puerto Rico	6	-	-	-	-	-	-	-	38	1	1	

